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Creating fuel efficient cars

By Amanda Roach

— CLERMONT — Science and math students teamed up with students in "shop class" to create a one of a kind car and have fun learning at the Indiana Math Science Technology Education Alliance's (IMSTEA) Super Mileage Challenge Monday at O'Reilly Raceway Park.

Jim Thompson, president of IMSTEA, said they have been hosting the challenge since 1996 and this is their 10th year at the ORP track. This year, 38 schools — from Evansville to Fort Wayne and everywhere in between — competed.

"It gets science and shop kids together to learn to appreciate each other's talents," he added.

Thompson explained that at the beginning of the year, students put together a proposal that explains their ideas for a car, as well as the car's aerodynamic drag, friction forces, braking forces, and corner forces.

Once the proposal is approved, students work under of the supervision of a faculty member and build the car. Thompson said the students raise all the funds to pay for the project themselves.

Each group of students receive an engine from Briggs & Stratton Corp., but all other needed items must be donated or purchased.

Prior to the competition, the cars are taken to the Vincennes University airport hanger at the Indianapolis International Airport for a technical inspection.

"It's mainly for safety," Thompson said.

After passing inspection, students bring their cars to the track for the challenge.

Thompson said the cars must go around the track 10 times to complete a run and they average about 15 miles per hour.

He said they also weigh — before and after — the fuel the students use. By weighing before and after, he explained that they can calculate how much fuel the car used during its run around the track.

Thompson said the students can actually go around the track as many times as they like, but they are scored by the average of their three best runs. Those who scored the highest received a trophy.

Out of the 38 schools participating, the teams are divided into two racing classes —stock and unlimited classes. Students in the stock class cannot make any modifications to their engine because it is sealed in the car, while students in the unlimited class can make modifications whenever necessary.

Students started racing around 8:30 a.m. and continued until 4:30 p.m., with winners being announced later that evening.

Avon and Cascade high schools had teams participating in the challenge.

Avon's technology teacher, Gary Ayers, said the car the students built was a rebuild from two solar powered cars.

"It's a modification from a solar vehicle," he explained.

Ayers said they started out racing solar powered cars eight years ago, but have competed in the mileage challenge for the past three years.

"It's an open club with them working on it as they could," he said. "They worked on it during sixth period and after school."

Tyler Griffith, a sophomore from AHS, said he enjoyed participating in both the club and the race.

"I'm happy to be a part of the experience," he added.

Students from Cascade High School said they used the same car they entered in last year's challenge, after making a few modifications.

Clayton Taylor, a senior at Cascade, said he participated in the challenge last year and came out this year as a consultant.
“It’s pretty cool to see what the other schools have done and how you can modify your own car,” he added.
But junior Bryan Coatney summed up the event best by saying, “It’s better than math class.”
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Photos